IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE PCT NATIONAL STAGE APPLICATION OF Group Art Unit: 1751
PETR KVITA ET AL
SERIAL NO.: 10/089,853
FILED: July 8, 2002
FOR: Fabric Softener Composition

DECLARATION UNDER RULE 132

I, Mario Dubini, a citizen of Switzerland residing in Niederdorf (Baselland), Switzerland hereby declare:

1. That I was awarded the Technical Laboratory Assistant in 1974 in Basel, Switzerland.

2. That I have been employed by Ciba Specialty Chemicals as a Technical Laboratory Assistant since April 1974.

3. That I presently hold the position of a Head of Application Laboratory Fabric Surface Modification in Grenzach, Germany.

5. That I consider myself an expert in the field of Textile dying, finishing, care, especially laundry processes.

6. That I prepared the test protocoll and performed the application tests of the compounds herein described in strict accordance with my statements in the Declaration.

The following Examples serve to demonstrate that the combination of polyorganosiloxane and polyethylene in a softener composition improves the wrinkle recovery property of the fabric.

The following three softener compositions have been used for all three tests:

Softener Composition A (Polydimethylsiloxane only, Prior Art)

16.7 wt-%	Di(tallowoyloxyethyl)(2-hydroxyethyl)methyl ammonium methyl sulfate (90 % solution = 15 wt-% softener)
8.8 wt-%	emulsified Polydimethylsiloxane (PDMS) with 350 cSt (22.7% solution = 2 wt-% PDMS)
74.5 wt-%	water

Softener Composition B (Polyethylene only, Prior Art)

16.7 wt-%	Di(tallowoyloxyethyl)(2-hydroxyethyl)methyl ammonium methyl sulfate (90 % solution = 15 wt-% softener)
3 wt-%	Velustrol P-40 (polyethylene)
80.3 wt-%	water

Softener Composition C (PDMS and Polyethylene, Invention)

16.7 wt-%	Di(tallowoyloxyethyl)(2-hydroxyethyl)methyl ammonium methyl sulfate (90 % solution = 13.5 wt-% softener)
8.8 wt-%	emulsified PDMS with 350 cSt (22.7% solution = 2 wt-% PDMS)
3 wt-%	Velustrol P-40 (polyethylene)
71.5 wt-%	water

The following washing and rinsing conditions are used for all three tests:

ECE 77 standard laundry detergent (ISO 105-C06):

8 %	Linear sodium alkyl benzene sulfonate (mean length of alkane chain $C_{11,5}$)
2.9 %	Ethoxylated tallow alcohol (14 EO)
3.5 %	Sodium soap, chain length (C_{12}-C_{16}: 13 - 26 % C_{18}-C_{22}: 74 - 87 %)
43.8 %	Sodium tripolyphosphate
7.5 %	Sodium silicate (SiO_2/Na_2O = 3,3/1)
1.9 %	Magnesium silicate
1.2 %	Carboxymethylcellulose (CMC)
0.2 %	EDTA, sodium salt
21.2 %	Sodium sulfate
9.8 %	Water

Washing machine:	AEG, Ökolavamat 73729
Washing process:	short color cycle at 40°C 33g ECE 77 standard laundry detergent / 1 kg wash load, Spin speed 400 rpm Total time: 53 minutes 13.3g softener / 1 kg wash load
Wash load:	1 kg fabric (inclusive Polyester-ballast material)
Drying:	Drying on the line at room temperature

After each washing and rinse process a washing cycle without any textile (to clean the drum and the softener dispenser of the machine) has been made:

AEG, Ökolavamat 73729 short cycle at 95°C

40g ECE 77 standard laundry detergent

TEST 1: Wrinkle recovery on dried fabric (DIN 53890)

Used fabric:

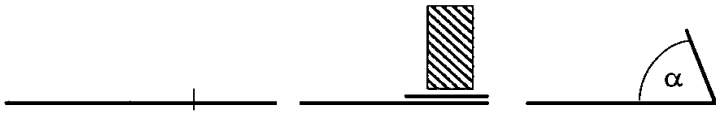
Cotton renforce (without finishing; 135 gm^{-2}; 5g per sample)

Procedure for measuring the recovery angle:

The method is done according to the standardized test method DIN 53890:

The washed and dried fabric (1) is folded and covered with a glass plate. Afterwards a weight of 1000g is put on the glass plate for 30 minutes (2). Afterwards the weight and the glass plate are removed and the angle of the release part fabric is measured (3)

Principle of the measuring of the recovery angle



The larger the recovery angle the better the recovery properties of the fabric. This has the effect that fabric ceases slower.

Table 1 shows the results of the present comparison tests with the three softener compounds.

	Softener A	Softener B	**Softener C**
Measured angle α	61°	57°	**69°**

The fabric treated with the inventive formulation shows an improved wrinkle recovery property of between 13 and 21 %. Such an improvement could not have been expected by a person skilled in the art.

TEST 2: Wrinkle removing by ironing (time exposure)

Used Textile:

Cotton Crockmeter (without finishing; 98 gm^{-2}; size of the fabric 34cm x 34cm)

Procedure for measuring the time to remove wrinkles by ironing:

The fabrics are air-dried for one day. Afterwards 2 fabrics (size 30x30 cm) are randomly chosen. 2.1g deionized water is sprayed on these fabrics from a distance of about 25 cm. Afterwards, the fabric is ironed by hand without pressure at a temperature of 160°C. The time, which is needed to obtain a wrinkle-free fabric is measured.

A difference of 4s is considered to be significant.

Table 2 shows the results of the test:

	Softener A	Softener B	**Softener C**
Time	22s	20s	**15s**

The fabric treated with the inventive formulation shows an improved wrinkle recovery property. The time which is needed to obtain a wrinkle-free fabric is significantly shorter. Such an improvement could not have been expected by a person skilled in the art.

TEST 3: Smooth App ar nce of the Fabric (AATCC Test Method 1224-1966)

Used textile:

Cotton/Polyester (67/33) (without finishing; 127gm^{-2}; 35cm x 35cm)

Procedure for measuring the smooth appearence of the fabric:

The method is done according to the standardized test method AATCC 1224-1966:
The samples are dried and examined independently by three experts. These persons had no information, which sample was treated with which softener. The ratings range from 1 for very poor (many wrinkles) up to 5 for excellent (=smooth).
The results of the test are summarized in the following table 3.

Table 3 shows the results of the Smooth appearance test

	Softener A	Softener B	**Softener C**
Grade	2.5	2.5	**2.9**

The fabric treated by the softener claimed by the present Application is 0.4 smother than the Softener of the prior art. Such an improvement could not have been expected by a person skilled in the art.

I, Mario Dubini, finally declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 101 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed this 6th. day of April 2004

Mario Dubini